FIG. 1

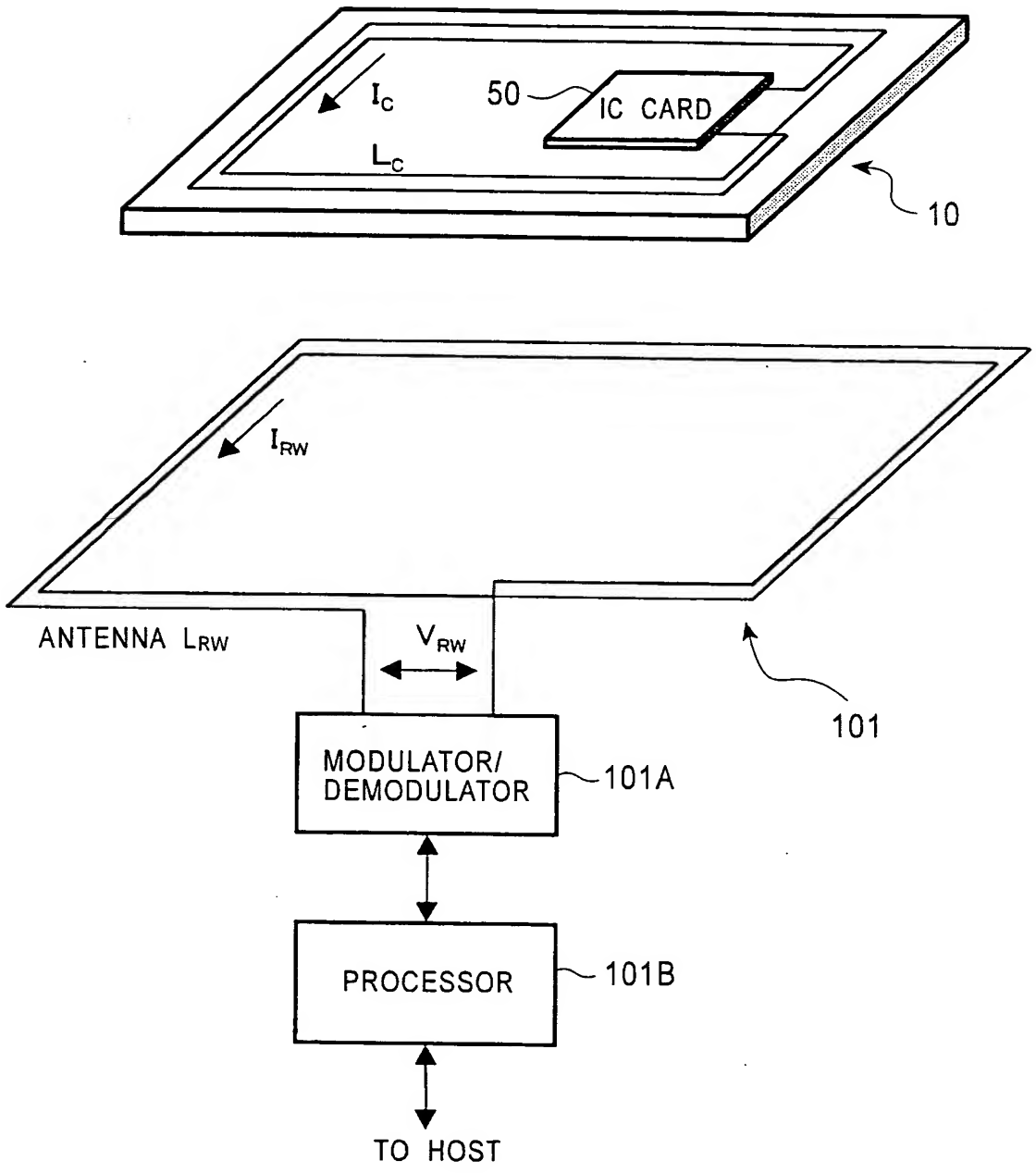

I_C
50
IC CARD
L_C
10
I_{RW}
ANTENNA L_{RW}
V_{RW}
101
MODULATOR/
DEMODULATOR
101A
PROCESSOR
101B
TO HOST

FIG. 2

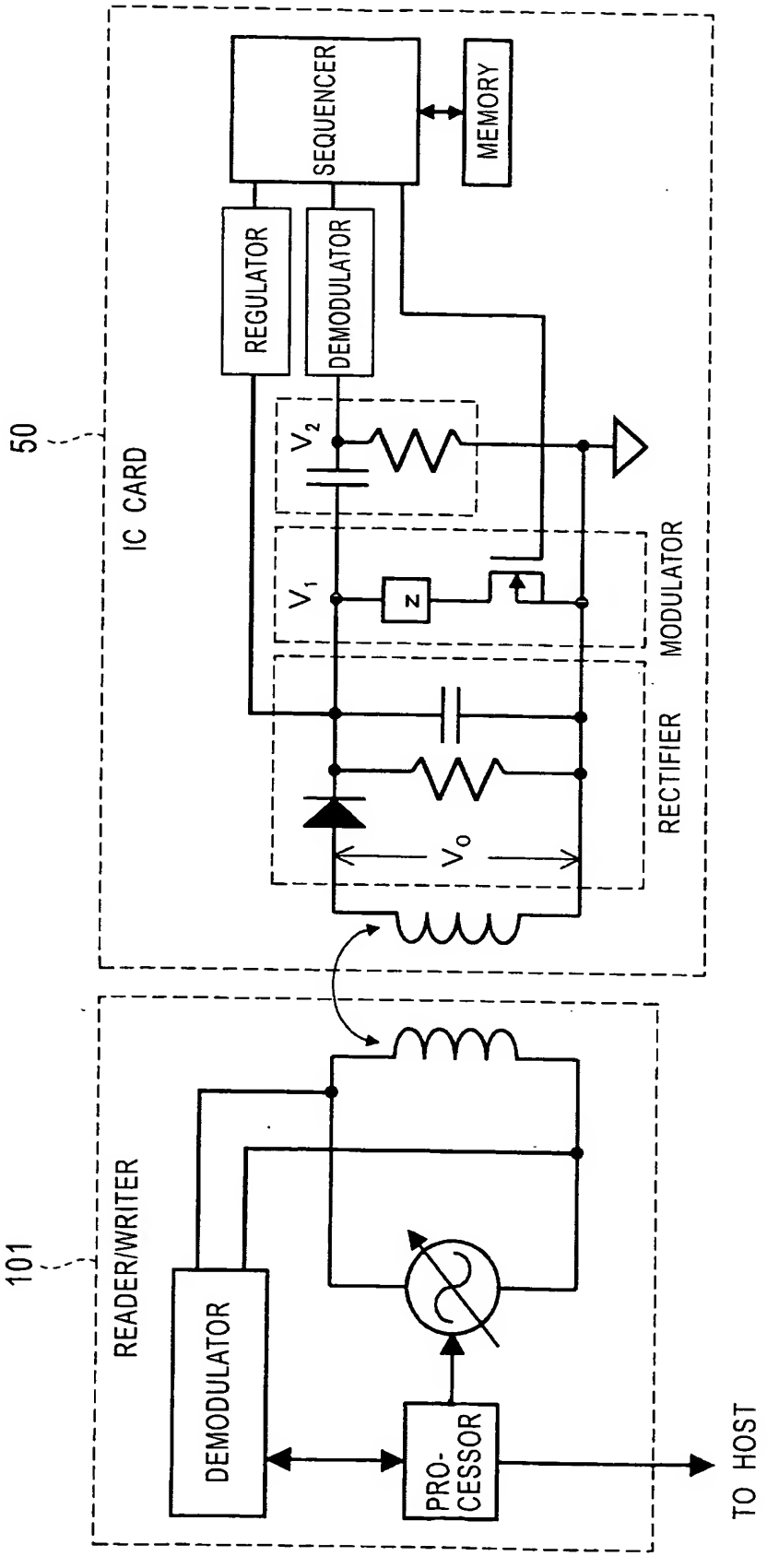

50
IC CARD
SEQUENCER
MEMORY
REGULATOR
DEMODULATOR
V_2
V_1
Z
MODULATOR
RECTIFIER
V_o
101
READER/WRITER
DEMODULATOR
PRO-
CESSOR
TO HOST

FIG. 3

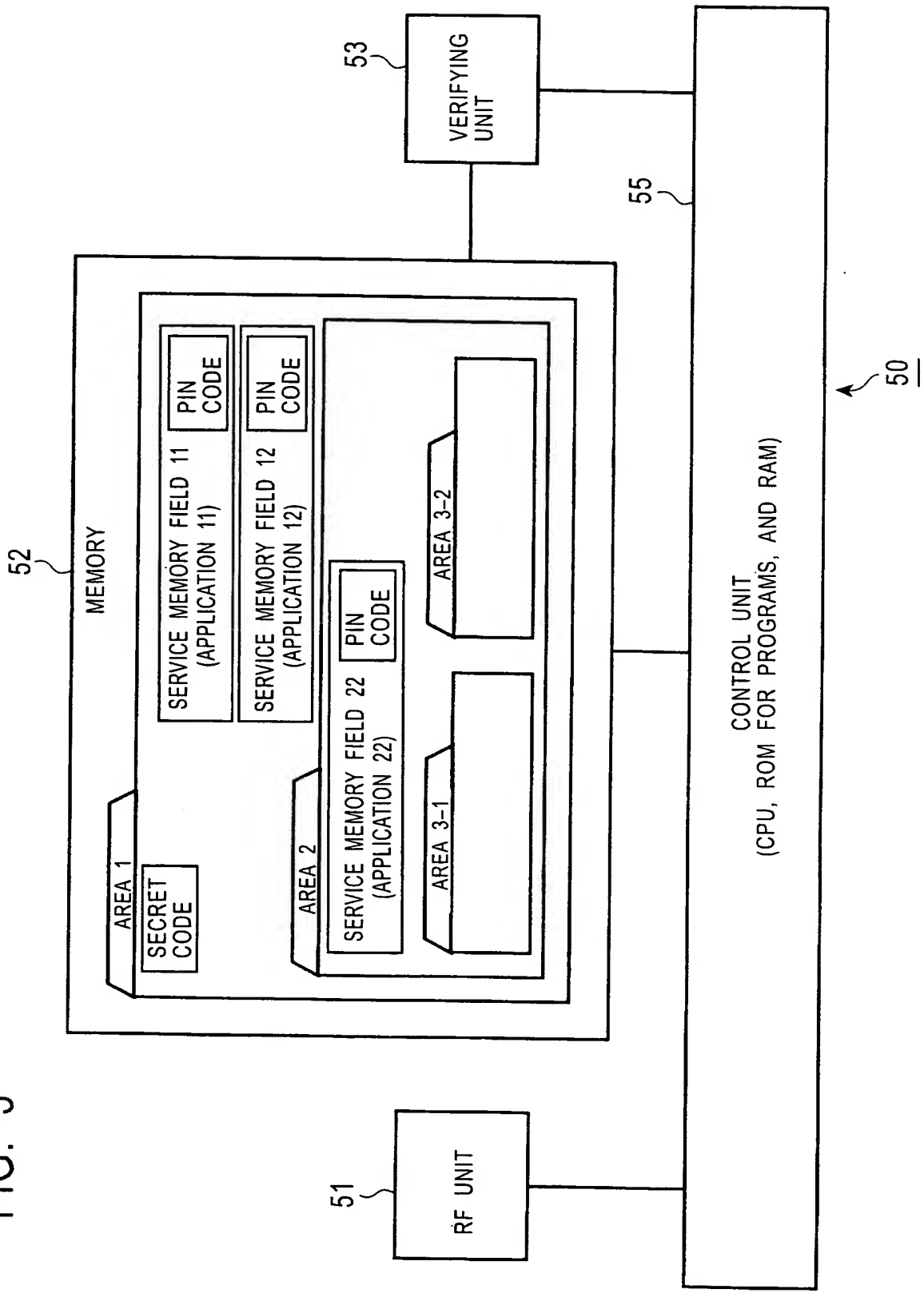

50
51
RF UNIT
52
MEMORY
53
VERIFYING UNIT
55
CONTROL UNIT
(CPU, ROM FOR PROGRAMS, AND RAM)
AREA 1
SECRET CODE
SERVICE MEMORY FIELD 11 (APPLICATION 11)
PIN CODE
SERVICE MEMORY FIELD 12 (APPLICATION 12)
PIN CODE
AREA 2
SERVICE MEMORY FIELD 22 (APPLICATION 22)
PIN CODE
AREA 3-1
AREA 3-2

FIG. 4

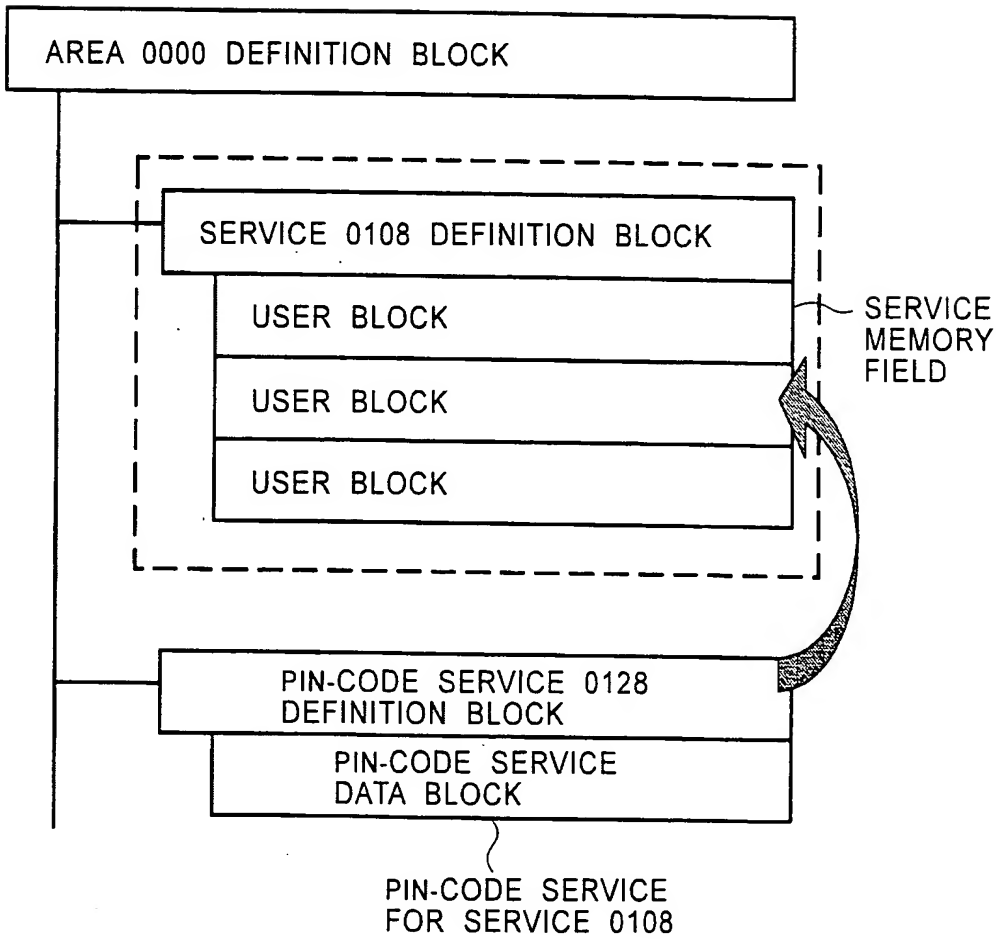

AREA 0000 DEFINITION BLOCK
SERVICE 0108 DEFINITION BLOCK
USER BLOCK
USER BLOCK
USER BLOCK
SERVICE MEMORY FIELD
PIN-CODE SERVICE 0128 DEFINITION BLOCK
PIN-CODE SERVICE DATA BLOCK
PIN-CODE SERVICE FOR SERVICE 0108

FIG. 5

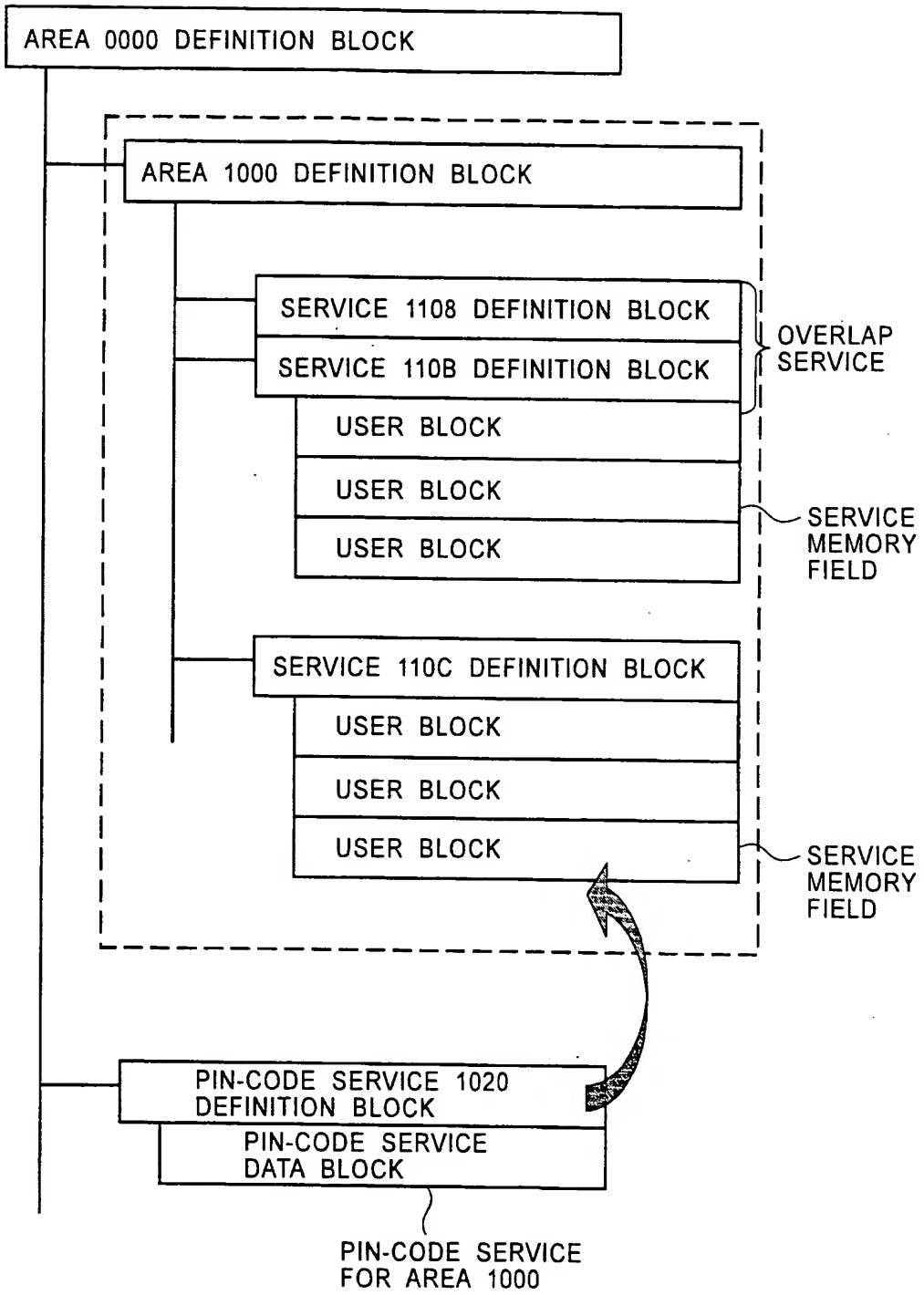

AREA 0000 DEFINITION BLOCK
AREA 1000 DEFINITION BLOCK
SERVICE 1108 DEFINITION BLOCK
SERVICE 110B DEFINITION BLOCK
OVERLAP SERVICE
USER BLOCK
USER BLOCK
USER BLOCK
SERVICE MEMORY FIELD
SERVICE 110C DEFINITION BLOCK
USER BLOCK
USER BLOCK
USER BLOCK
SERVICE MEMORY FIELD
PIN-CODE SERVICE 1020 DEFINITION BLOCK
PIN-CODE SERVICE DATA BLOCK
PIN-CODE SERVICE FOR AREA 1000

FIG. 6

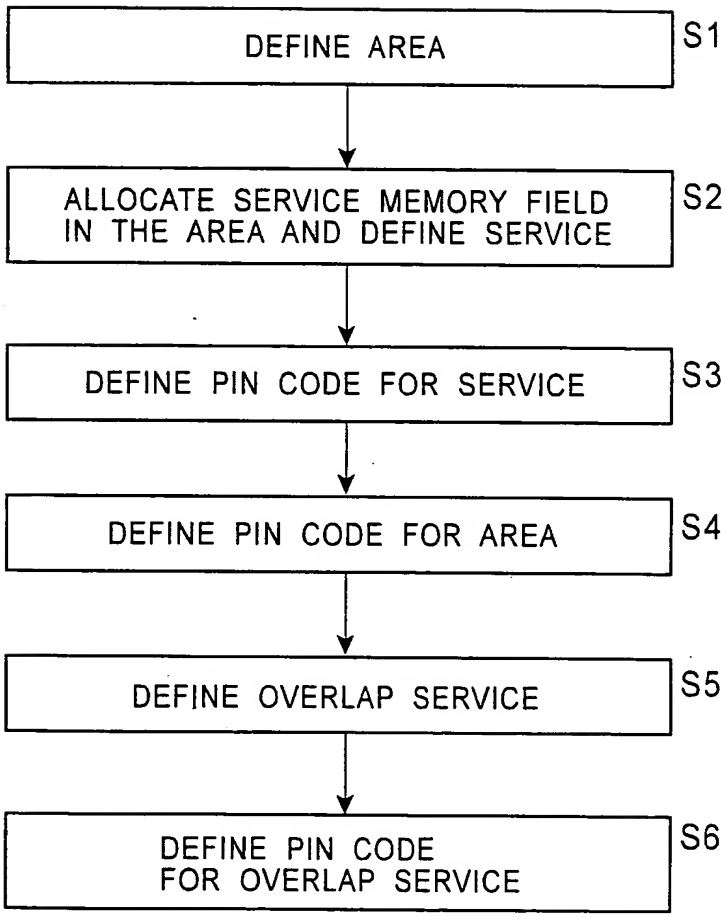

DEFINE AREA
S1
ALLOCATE SERVICE MEMORY FIELD IN THE AREA AND DEFINE SERVICE
S2
DEFINE PIN CODE FOR SERVICE
S3
DEFINE PIN CODE FOR AREA
S4
DEFINE OVERLAP SERVICE
S5
DEFINE PIN CODE FOR OVERLAP SERVICE
S6

FIG. 7

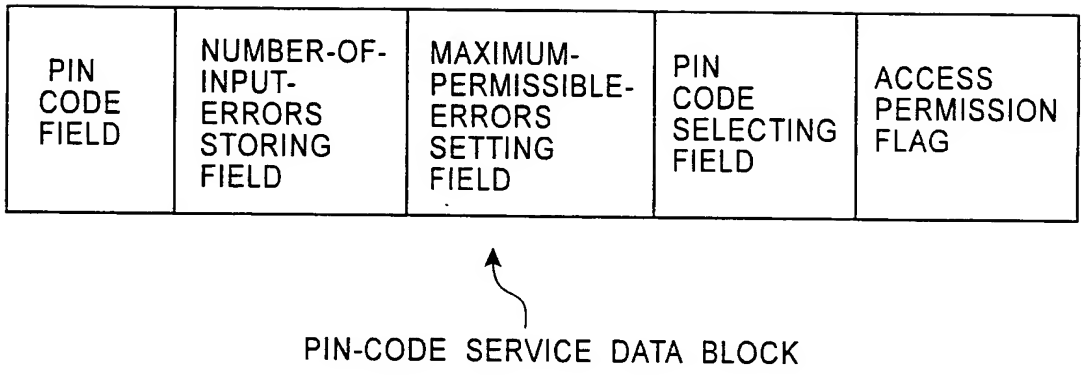

PIN CODE FIELD
NUMBER-OF-INPUT-ERRORS STORING FIELD
MAXIMUM-PERMISSIBLE-ERRORS SETTING FIELD
PIN CODE SELECTING FIELD
ACCESS PERMISSION FLAG
PIN-CODE SERVICE DATA BLOCK

FIG. 8

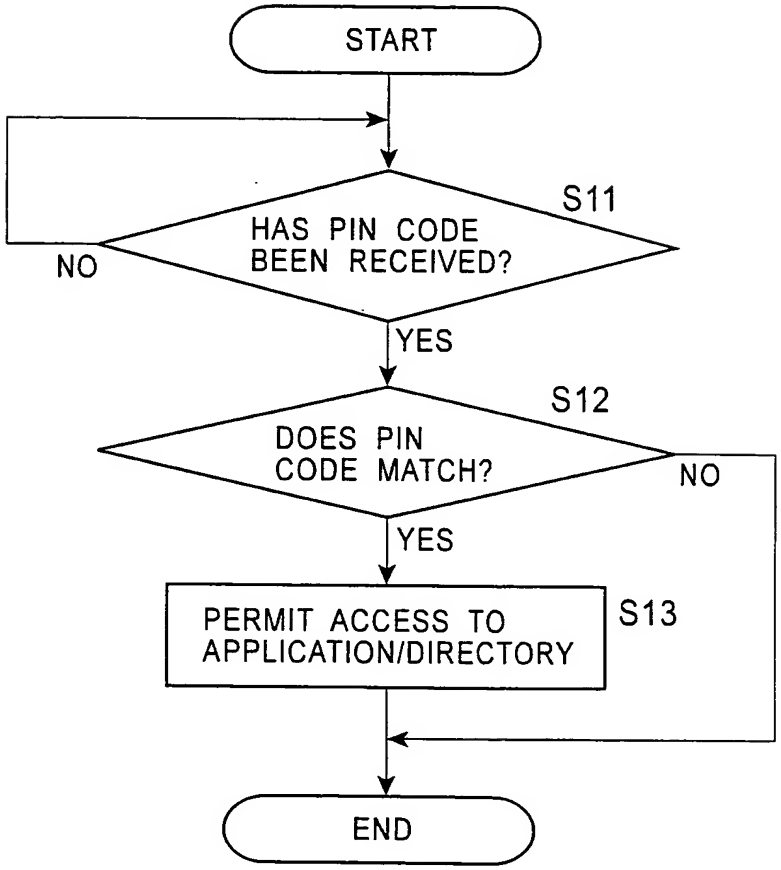

START
S11
HAS PIN CODE BEEN RECEIVED?
NO
YES
S12
DOES PIN CODE MATCH?
NO
YES
PERMIT ACCESS TO APPLICATION/DIRECTORY
S13
END

FIG. 9

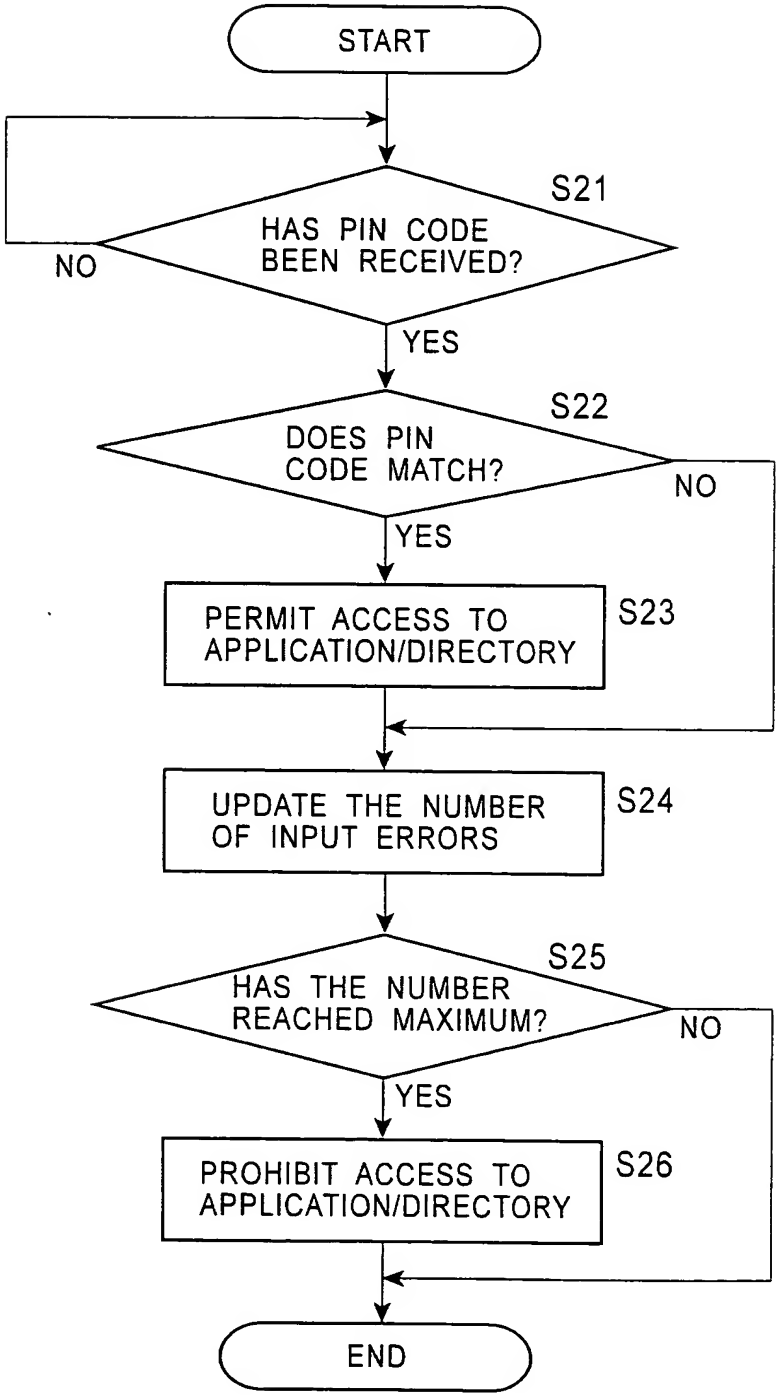

START
S21
HAS PIN CODE BEEN RECEIVED?
NO
YES
S22
DOES PIN CODE MATCH?
NO
YES
PERMIT ACCESS TO APPLICATION/DIRECTORY
S23
UPDATE THE NUMBER OF INPUT ERRORS
S24
S25
HAS THE NUMBER REACHED MAXIMUM?
NO
YES
PROHIBIT ACCESS TO APPLICATION/DIRECTORY
S26
END

FIG. 10

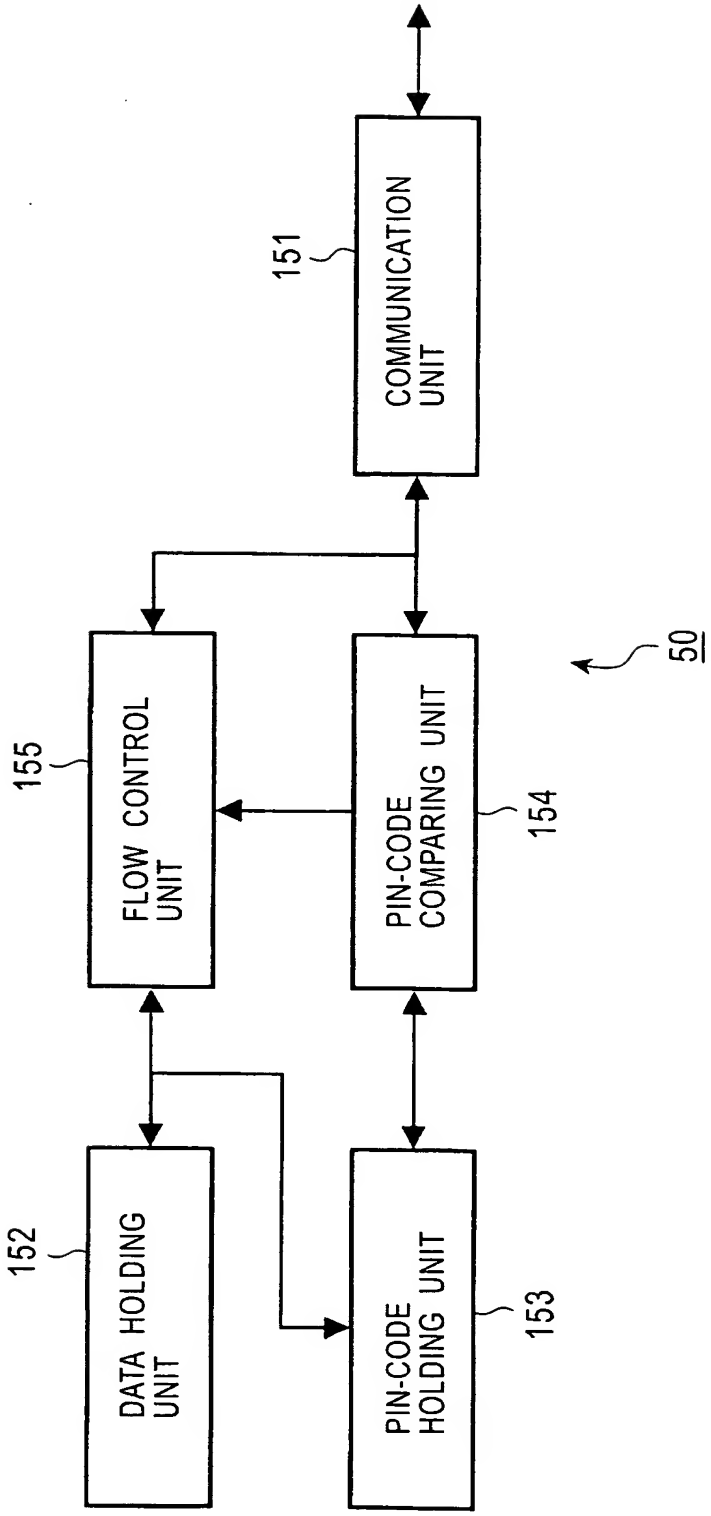

COMMUNICATION UNIT
151
FLOW CONTROL UNIT
155
PIN-CODE COMPARING UNIT
154
50
DATA HOLDING UNIT
152
PIN-CODE HOLDING UNIT
153

FIG. 11

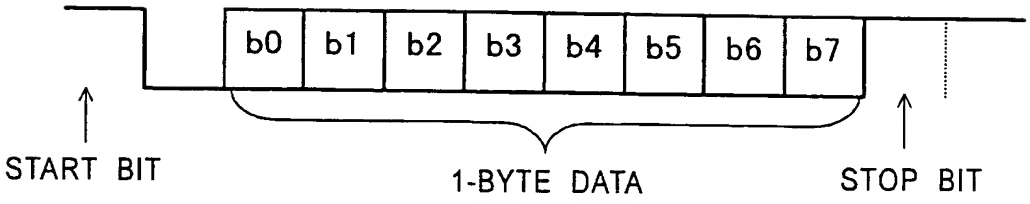

b0
b1
b2
b3
b4
b5
b6
b7
START BIT
1-BYTE DATA
STOP BIT

FIG. 12

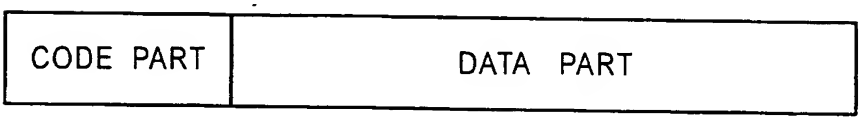

CODE PART
DATA PART

FIG. 13

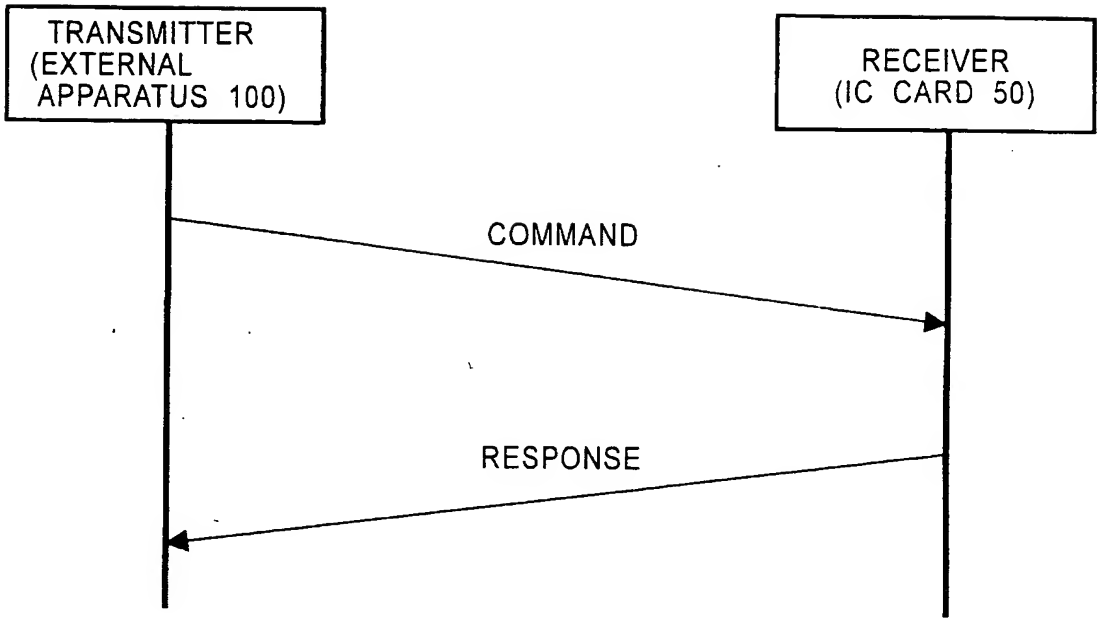

TRANSMITTER
(EXTERNAL
APPARATUS 100)
RECEIVER
(IC CARD 50)
COMMAND
RESPONSE

FIG. 14

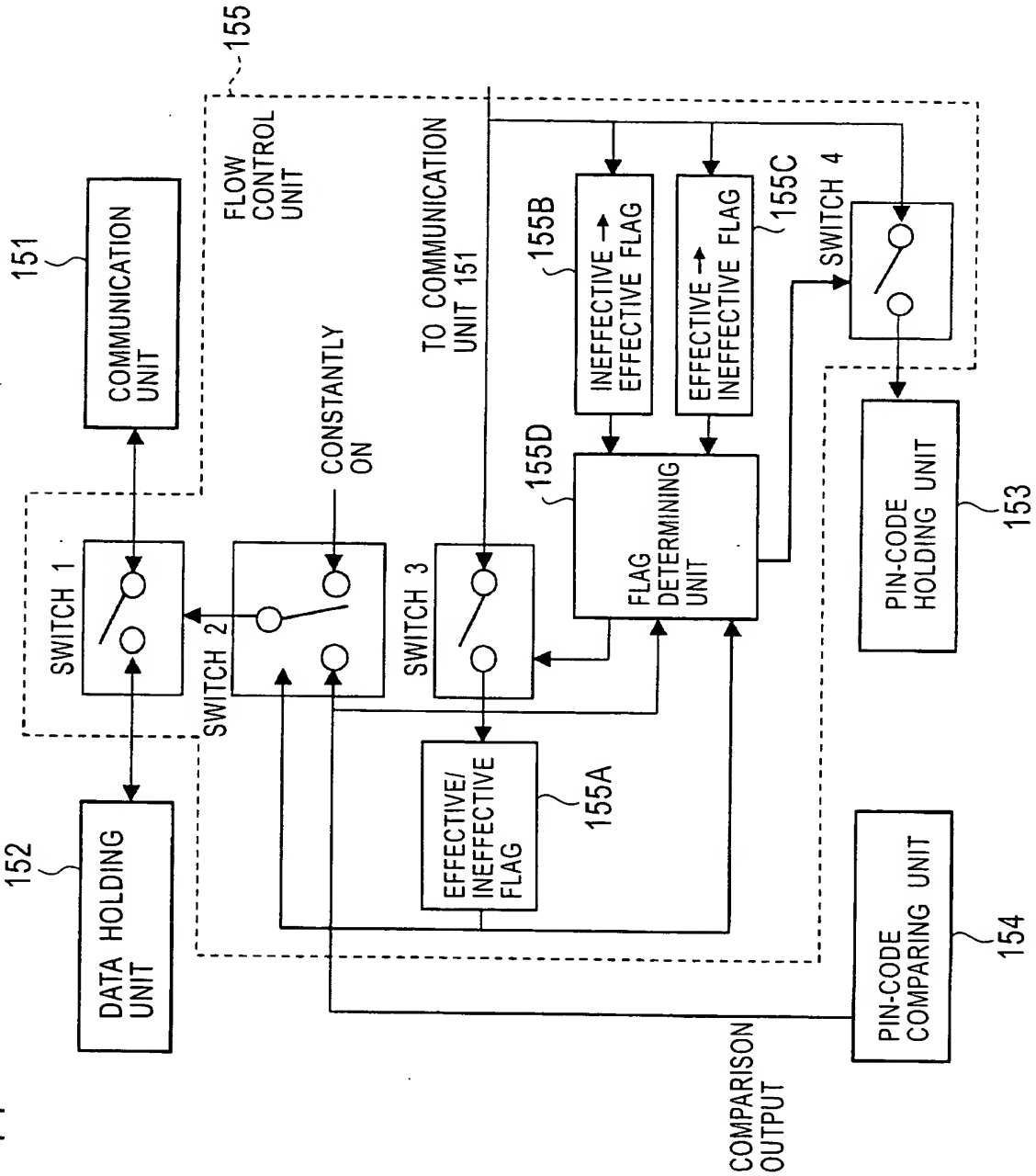

155
FLOW CONTROL UNIT
151
COMMUNICATION UNIT
TO COMMUNICATION UNIT 151
155B
INEFFECTIVE → EFFECTIVE FLAG
EFFECTIVE → INEFFECTIVE FLAG
155C
SWITCH 4
CONSTANTLY ON
155D
FLAG DETERMINING UNIT
PIN-CODE HOLDING UNIT
153
SWITCH 1
SWITCH 2
SWITCH 3
EFFECTIVE/ INEFFECTIVE FLAG
155A
152
DATA HOLDING UNIT
PIN-CODE COMPARING UNIT
154
COMPARISON OUTPUT

FIG. 15

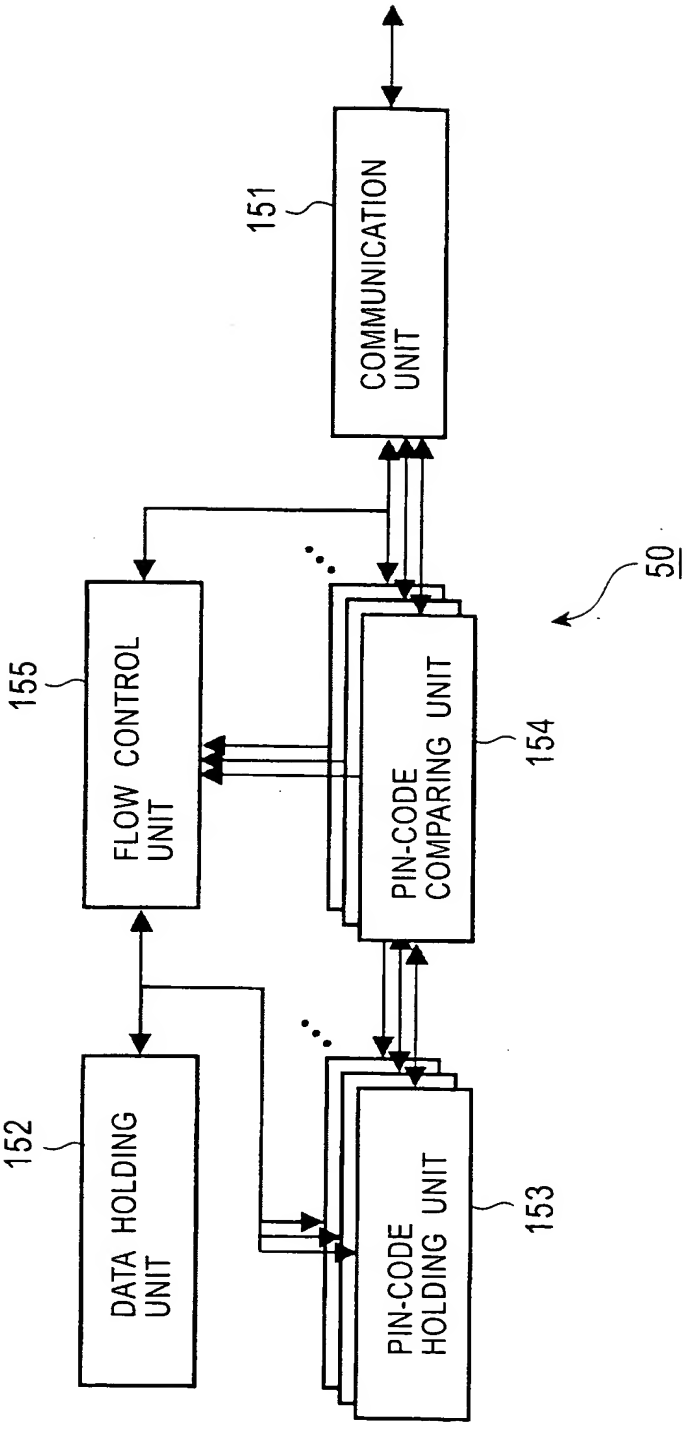
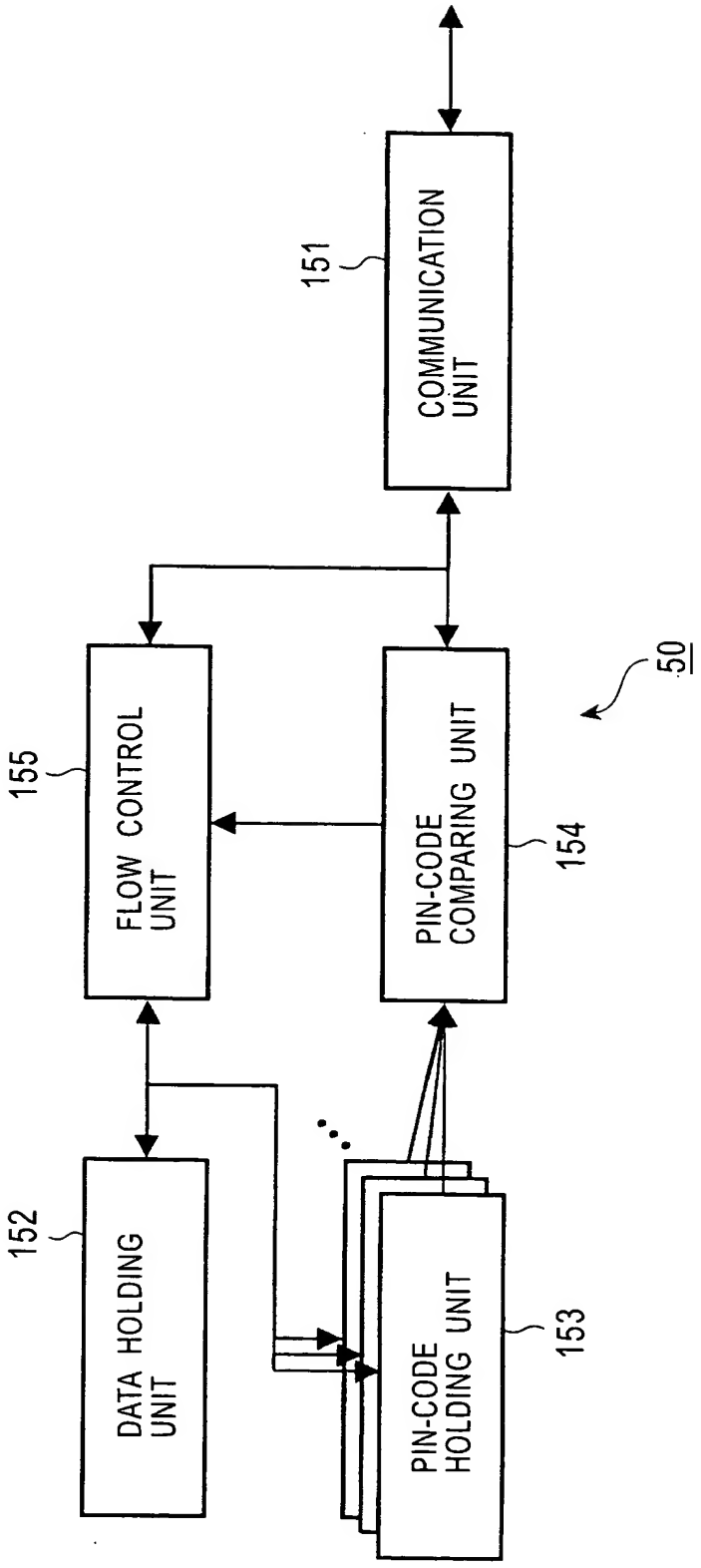

COMMUNICATION UNIT
151
FLOW CONTROL UNIT
155
PIN-CODE COMPARING UNIT
154
50
DATA HOLDING UNIT
152
PIN-CODE HOLDING UNIT
153

FIG. 16


COMMUNICATION UNIT
151
FLOW CONTROL UNIT
155
PIN-CODE COMPARING UNIT
154
50
DATA HOLDING UNIT
152
PIN-CODE HOLDING UNIT
153